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# **Investigating readers' impressions of typographic differentiation using repertory grids**

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## **Abstract**

Document designers combine a range of stylistic and structural typographic attributes to articulate and differentiate information for readers. This paper explores how the kind of typographic differentiation used in a document influences readers' impressions of documents. A preliminary study indicated that three patterns of typographic differentiation (high, moderate and low) might underlie participants' impressions of magazine design. Subsequently, a set of nine magazine layouts with controlled content was purposefully developed to systematically examine the impact of high, moderate and low patterns of typographic differentiation on participants' impressions of documents. These documents were used in a repertory grid procedure to investigate the kind of impressions readers articulate in relation to typographic presentation and whether readers are likely to formulate similar or differing impressions from high, moderate, and low patterns of typographic differentiation. The results suggest that typographic differentiation influences a range of rhetorical and experiential judgments. For example, participants described high differentiation documents as the most attention-grabbing and easy to skim-read, while they considered moderate and low differentiation documents to require deeper reading strategies. In addition, participants assumed high differentiation documents to be much more sensationalist than moderate or low differentiation documents, which they generally perceived as authoritative and credible.

## **Key words**

Document credibility; document design; genre; layout; personal construct psychology;

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# 1 Introduction

## 1.1 Theoretical and professional perspectives on typographic differentiation

In professional practice, document designers use stylistic and spatial variations in typographic presentation to differentiate and structure information. Typographic differentiation is used to articulate particular kinds of information, indicate segmentation devices (headings, subheadings, lists, quotations, etc.), and suggest appropriate “access strategies” (Waller, 1980; 2012) to readers. Although many documents use similar kinds of segmentation devices, the stylistic and structural differentiation of these may vary according to the document genre, intended readership, and established conventions and house styles. For example, tabloid newspapers typically use more exaggerated typographic differentiation than broadsheet newspapers.

While we can identify different levels of typographic differentiation across genres we do not have a *systematic* understanding of how varying combinations of stylistic and structural typographic attributes may influence readers’ initial impressions of a document. Does the typographic presentation of information simply convey a general ‘mood’ or ‘personality’ or do readers make rhetorical judgments about the kind of information contained, its relevance to them, and the credibility of the author from the typographic presentation? While designers may talk informally about the overall document personality or the ‘look and feel’ of a document, more research is needed to demonstrate how typographic attributes work in combination to create meaning and



“externalize” (Macdonald-Ross 1977: 52) tacit knowledge.

In the context of real documents, typographic presentation can be described as multivariate because many attributes coexist and are interrelated. However, research into participants’ impressions of typographic presentation largely tends to ignore the complexity and multivariate nature of document typography and focus on isolated variables (Macdonald-Ross and Waller, 1975). There is, for example, a substantial cross-disciplinary and multi-method body of research into typeface personality.

Brumberger (2001) and Shaikh (2007) provide the most comprehensive accounts of this body of work. Shaikh’s research is also of particular interest because it indicates that readers make judgments about the credibility of a document according to the perceived appropriateness of the typeface used. There are also a few studies that examine other aspects of typographic presentation and meaning. For example, McAteer (1989) examines how different styles of typographic emphasis convey meaning and Middlestadt and Barnhurst (1999) test how differences in horizontal or vertical layout influence readers’ impressions of content tone.

However, one cannot assume that readers necessarily form the same kind of judgments based on multivariate typographic configurations as they do from variations in typefaces or other discrete attributes. Click and Stempel’s (1968) study of newspaper typography attempts to consider participants’ impressions of typographic presentation more holistically than other researchers. However, the descriptors they tested were chosen based on their relevance to a study of newspapers in the 1960s, so the results may not necessarily be generalizable to other genres. In addition, their test

material was not fully controlled for typographic, content and image variables so it is hard to discern what combinations of attributes may have influenced their results.

Accordingly, a study of typographic differentiation would need to consider:

1. Which combinations of typographic attributes to test (considering, for example, stylistic attributes such as typeface and weight as well as structural attributes such as column layout and the use of white space)<sup>1</sup>;
2. How to adequately control or account for multiple variables within a set of test materials that are reasonably representative of real documents;
3. What kinds of impressions readers form in relation to typographic presentation.

Rather than looking at the effects of isolated typographic attributes, the trial reported here aims to assess whether three kinds of typographic differentiation, described as *patterns* rather than fixed specifications, influence readers' impressions of documents. The combinations of stylistic and structural attributes that comprise the three patterns of typographic differentiation were identified first through an exploratory study that sought to establish which combinations of typographic attributes participants considered to convey similar or different impressions<sup>2</sup>. A personal construct approach (after Kelly, 1955) was adopted ensure the research was able to systematically test the patterns of differentiation within a framework that remained sensitive to both the

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<sup>1</sup> Given the number of possible typographic options a designer can choose to combine in a document, it is possible to produce infinite typographic variations of a document – although, in practice, most documents tend to conform to a comparatively narrow range of conventional variations (Luna, 1992).

<sup>2</sup> Preliminary results from this study are discussed in Moys (2001).

multivariate nature of the materials and the kinds of impressions that participants hold meaningful.

## **1.2 Personal construct approaches**

Both the 2011 exploratory study and the main trial reported here use methods derived from Kelly's (1955) personal construct psychology. Kelly developed his theory of personal constructs to explain how individuals, or groups of individuals, create meaning from their own repertoires of experience and association. He pioneered the repertory grid procedure in order to establish a method that allows individuals to reveal the ideas or "personal constructs" that are meaningful to them in relation to a set of "elements".

Personal construct methods have evolved to include different variations of Kelly's original repertory grid approach (Pope and Denicolo, 2001) and have been applied to a number of disciplines. Within design studies, Bartram (1982), for example, used repertory grid analysis in the study of typeface personality. Repertory grid analysis has also been applied to areas of design research where multiple variables occur in combination, such as multimedia design (Hassenzahl and Wessler, 2000). Variations of Kelly's methods, such as multiple sort tasks, have similarly been used in the study of human-computer interaction (Al-Azzawi, Frolich, et al, 2008).

The advantage of these methods is that they create a description of stimuli generated by study participants, without the biasing influence of the researcher's description. For typographic research, this method of data collection also ensures that participants

can comment on characteristics of the test material that are meaningful to them. So, in this trial, it provides a way of identifying when particular stylistic or structural typographic attributes influence participants' impressions while still testing the overall effects of the patterns of typographic differentiation. These methods provide a way of systematically measuring perceived similarities and differences, while remaining sensitive to individual nuances. Across multiple participants in a study, patterns of description and shared associations may emerge.

## **2 Patterns of typographic differentiation**

### **2.1 Exploratory study of magazine typography**

#### **2.1.1 Materials**

Using a sample of 12 consumer magazines, this study explored which combinations of typographic attributes are likely to convey similar impressions. To ensure some parity across the content, two general interest subject areas were identified (finance and gardening) and six publications for each subject selected at random from the available titles in a high-street newsagent. The lead feature articles and the covers were used in the trial.

#### **2.1.2 Method**

The multiple sort procedure used for the exploratory study is one of many methodological variations that have been derived from Kelly's original approach (see

Pope and Denicolo, 2001). In a multiple sort procedure, participants view the full set of elements simultaneously and are required to form meaningful sub-groups of the elements (Pope and Denicolo, 2001). Participants can form as many groups and have as few or many elements in a group as they consider necessary.

Fifteen participants who did not have any formal design education or experience attended individual interviews in which they performed a series of sorting tasks using first the feature articles and then the covers. They were asked to explain how the groups they formed differed in relation to the style, mood, and readership<sup>3</sup> suggested by the typographic presentation. The interviews were audio recorded. Observational data was also captured when, for example, participants pointed to particular features, so that quantitative analysis of the groups formed across all the participants could be contextualized in relation to the kinds of impressions articulated and the attributes that participants commented on.

### **2.1.3 Findings**

Although the interviewer asked participants to describe the groups in relation to themes such as typographic style, mood and readership, a broad range of descriptive and evaluative responses were articulated and these seemed to be much more fluid than the interviewer's themes would suggest (see Moys, 2011). For example, participants often commented on the imagined readers and their reading experience before being questioned about "readership". Some participants said they found the mood theme most difficult to respond to. Nevertheless, participants described a range

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<sup>3</sup> Broad terms such as "style", "mood" and "readership" were used in the interview to ensure the questions posed were open-ended and participants would respond in their own words. The order in which these themes were mentioned was rotated to balance any order effects.

of affective qualities in relation to this theme.

As anticipated, given the uncontrolled nature of the magazines, participants discussed both the typographic presentation of the materials and other attributes such as similarities of color, content, the choice and treatment of images, and physicality attributes (such as paper stock and the thickness of the publication) (see Moys, 2011). The range of attributes mentioned provided useful input to the design of appropriately-controlled test material in follow-up studies. The audio and observational data was useful to discriminate the influence of particular attributes, particularly as participants tended to state when they felt their impressions were influenced by the content rather than the typographic presentation. Generally, participants sorted the magazines and articulated impressions according to the overall compositional effect and relative busyness and orderliness of the layouts. They seldom commented on micro-typographic attributes such as differences in typeface. In fact, participants were more likely to comment on the rhetorical effects of capitalization than those of different styles of typeface.

Analysis both of the groups formed and the frequency of paired combinations within the groups identified that the 12 magazines could generally be divided into three groups. Initially, analysis of the typographic presentation indicated that the magazines in each group tended to have a similar level of typographic differentiation, with those magazines with very subtle and minimal changes in typographic style, those with a moderate level of differentiation, and those with exaggerated differentiation tending to be grouped together. However, closer analysis of the qualitative data and the typographic presentation of the magazines revealed that the groups also shared

clusters of stylistic attributes that tended to co-occur within each group and organizational principles governing their layout. From this analysis, three patterns of typographic differentiation were identified: high, moderate, and low.

## **2.2 Description of high, moderate, and low typographic differentiation**

As the name suggests, the degree to which segmentation devices are typographically differentiated within each differentiation pattern increases from a low, through a moderate, to a high level of differentiation. For example, in the three examples shown in Figure 1, the extent to which a segmentation device, such as a subheading, is differentiated from the body text (which is identical in all three examples) increases from a relatively subtle difference to a much more exaggerated or amplified difference. Similarly, the stylistic differentiation of the initial drop caps at the start of the extracts increases across the three examples.

[Insert Figure 1]

In addition, the overall amount of variation (number of images, graphic objects and their styles, typefaces, size and weight variations, etc.) in each pattern also increases or decreases in relation to the respective level of typographic differentiation. As the level of typographic differentiation increases, the degree of compositional “orderliness” (Bonsiepe, 1968) decreases. However, the groups are not simply defined by the *level* of typographic differentiation and overall variation, rather particular stylistic and structural attributes tend to co-occur within each pattern.

[Insert Figures 2–4]

For example, **low differentiation documents** (see Figures 2–4) feature the most prominent areas of white space and tend to use fairly generous vertical line spacing (leading) and wide margins and inter-column spacing (gutters). The composition of low differentiation documents tends to be highly balanced, orderly and often symmetrical. The layering or overlapping of graphic objects is limited. The article is generally set in two or three wide columns (see Figures 2–4). Low differentiation documents combine relatively few stylistic variations for typographic differentiation and tend to use capitals or italicized variants of the body typeface rather than bold weights or a change in typeface. Display text tends to be moderately sized with lots of white space around it. Occasionally, substantial increases in size are used for creating compositional points of interest (such as a large drop cap). Display text tends to be left-aligned or centered to reinforce compositional symmetry and the body text is either left-aligned or justified with relatively large first line indents. Colored backgrounds or objects are used sparingly and a subtle color palette is applied.

[Insert Figures 5–7]

**Moderate differentiation documents** (see Figures 5–7) tend to use a space methodically and evenly throughout the composition, with the spacing between elements being neither particularly tight nor particularly loose. The composition is clearly based on a uniform and predictable grid. The sense of horizontal and vertical order is often reinforced by the use of boxes and rules. There is some variation in type style but bold weights are most frequently used for typographic differentiation. Full capitals are used occasionally for differentiation. The display text tends to be



moderately sized and in bold weights for prominence. Display text also tends to be left-aligned. Display text and boxed items are mostly clearly aligned within the grid. Some signature color is used but with limited tonal variety and few tints.

[Insert Figures 8–10]

**High differentiation documents** (see Figures 8–10) have the most variability in their composition and often incorporate irregularly shaped or angled objects. The layouts are usually highly asymmetric with prominent points of entry into different components to create a sense of dynamism. These documents usually feature several, relatively narrow columns of text. Text columns are not necessarily of regular width and half-measure columns may be used. The body text is unlikely to be justified and has relatively small first line indents. These documents tend to combine a range of typographic styles and alignments, often combining different styles within text elements such as headlines. Bold typeface weights are used extensively. Drop shadows or other effects are likely to be applied to display typography and graphic objects. Display text tends to be substantially larger than the body text and is seldom set in full capitals. Colored backgrounds and text reversed out of colored backgrounds are often used. Graphic objects and boxes are tightly spaced and tend to straddle columns of text or are layered. Frame and rule weights are heavier and more varied in style than those used in the other patterns. Overall, a higher density and variety of saturated color is incorporated into the composition. The increased use of graphic objects and irregularity results in a low degree of compositional “orderliness” (Bonsiepe, 1968).

These attribute listings are not immutable specifications. Given the infinity of possible combinations, it is not realistic to assume that these attributes are fixed. Instead,

similar to descriptions of prototypes and categorization (see Rosch, 1978), a document is considered to be typical of a particular differentiation pattern when its specifications result in most of these cluster attributes being present. Thus, a document may be typical of a differentiation pattern but contain neither *all* the features of that pattern nor *only* attributes from that pattern.

Furthermore, different document genres and sub-genres use different degrees of typographic variation. Hence, a magazine targeting a particular sub-cultural group of music fans is likely to use more exaggerated typographic variation than an annual report for a Dow Jones listed company. Accordingly, what is considered ‘high’ or ‘moderate’ for one genre may well be considered ‘low’ in another. Thus, it is important to reiterate that the three patterns described here originate from conventional consumer magazines.

The exploratory study was useful in identifying these three patterns of typographic differentiation. To assess if readers’ impressions of documents are reliably influenced by the described patterns of typographic differentiation, a set of controlled typographic materials was developed and tested in a repertory grid procedure.

### **3 Research design**

#### **3.1 Materials**

Three variations of each differentiation pattern (see Figures 2–10) were developed using the characteristics revealed by the exploratory study described above. For genre

consistency, all nine examples were designed as a double-page feature spread from a magazine.

As far as possible, non-typographic attributes that the exploratory study had shown to influence participants' judgments were controlled. In this respect, the test material was presented as a double-A4-page-spread printed on a single sheet of identical paper stock. The same image was used at a uniform size for all nine documents and darkened to obscure any semantic connotations potentially inherent in the image. The same text was used for all nine documents. The article used was presented as a third order approximation of English to reduce interference from linguistic meaning, while ensuring the text had a realistic texture<sup>4</sup>. The text had been edited to include a range of segmentation devices (headline, introductory blurb with byline, subheadings, quotation and sidebar with subheading, headers and footers) appropriate to the magazine genre. The color palette applied to all the documents was standardized to avoid any bias introduced by color. However, the specifications of each differentiation pattern meant that some variation in color density and tonal variety was unavoidable. In addition, it was necessary to control particular typographic attributes. The typeface, size and leading for the body text was consistent across all the examples to minimize interference from perceived differences in legibility, although of course it was necessary to vary the line length and indentation as appropriate for each pattern.

The exploratory study indicated that participants tended to form an overall

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<sup>4</sup> Wendt (1968) seems to be the first to propose the use of third order approximations for typographic test material and these have been used in some studies of typeface personality (Morrison, 1986; Shaikh 2007). The third order approximations used in this study were created using an online trigram generator (<http://zc-trigram-generator.findmysoft.com/>, accessed April 2011).

impression rather than discriminate between examples according to differences in typeface style. Nevertheless, it was considered important to ensure that the test material was balanced in a way that could account for any influence of differences in typeface personality, while using a realistic range of stylistic differentiation. To minimize the influence of differences in typeface personality only two type families were used. Furthermore, the use of serif, sans serif and condensed variations for the main headline was systematically varied across the test material (as shown in Table 1) in order to ensure that any effects of these attributes could be easily ascertained while still allowing for sufficient stylistic differentiation.

[Insert Table 1]

The size, weight, and effects applied to the headline were varied according to the respective differentiation patterns. In addition to the differentiation of the main headline, introductory blurb, first paragraph style, and subheadings, each article included either a pull-quote or a sidebar to enable a greater range of typographic permutations to be considered. Two examples from each differentiation pattern included a pull-quote and one from each a sidebar.

### **3.2 Procedure**

Twenty-one participants who had no formal design training or experience attended individual interviews in which they completed a repertory grid procedure (Kelly, 1955; Fransella and Bannister, 1977). The nine test documents were presented to the participants as a series of eight triads. Although the same nine documents were shown

to every participant, the combination of eight triads, the order of documents within each triad, and the order in which the triads were shown to each participant were randomized. In addition to balancing and minimizing order effects, the randomization process ensured that a broad range of document combinations was studied.

The interview briefing included a practice trial using photographs to explain the procedure and how participants should fill in the grid (see Figure 11). Each participant completed a repertory grid in two stages. The first stage focused on descriptive construct elicitation using the triadic form. For each of the eight document triads, participants were asked to articulate their *initial impression* of the documents, describing how two of the examples in each triad were similar to each other and different to the third. The similar (or emerging) construct was written on the left-hand side of the grid, and the different (or implicit) construct on the right.

[insert Figure 11: Example of the grid supplied to participants]

Participants could articulate multiple constructs for each triad and laddering techniques<sup>5</sup> were used to encourage each participant to articulate all the constructs they held for the set of documents. In the second stage, participants evaluated the nine documents in relation to their elicited constructs on a five-point rating scale. The interviews were audio recorded to ensure that the qualitative data from the elicitation process was accurately captured.

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<sup>5</sup> Examples of laddering questions include asking the participant which construct (elicited or implicit) they value more, why they consider it to be important, and what associations it holds for them.

## 4 Results

### 4.1 Analysis of elicited constructs

Identifying the most frequently used descriptions does not necessarily provide a balanced account of the elicited constructs, given that each participant used their own words and that participants sometimes used similar words to mean different things. Instead, a thematic analysis of the elicited constructs enabled a more balanced understanding of the range of impressions formed. The thematic analysis was undertaken with reference to the audio data to ensure meanings were interpreted as accurately as possible.

Drawing on the kinds of constructs other repertory grid analyses have identified (c.f. Pope and Denicolo, 1993; Hassenzahl and Wessler, 2000), the full set of constructs from the trial was analysed. Five key themes were identified:

1. **Description** includes references to the appearance of the test material, including references to stylistic and organizational typographic attributes, color, and segmentation devices. Substantially fewer references to specific stylistic attributes (with the exception of judgments of boldness/lightness) were made in comparison to those related to typographic organization.
2. **Address** includes evaluative comments that pertain to perceptions of rhetoric and style and how the documents were seen to address or appeal to particular readers.

3. **Association** includes references to kinds of content, publications, genres, media platforms and cultural styles. The range and number of associative constructs indicate that participants' perception of the examples is often linked to pre-existing, individual frames of reference.
4. **Credibility** includes appraisals of appropriateness, authenticity, credibility, ethos, information value, professionalism, reputation, and worth. Most participants articulated at least one construct that can be seen as a judgment of credibility. In particular, "professional" was one of the most frequently mentioned adjectives, as were references to importance and interest.
5. **Experience** encompasses a number of constructs that pertain to how readers experience and interact with documents. For example, participants articulated a range of judgments relating to usability and reading. A number of constructs indicated that participants formed assumptions about the assumed readers and their demographic characteristics, motivations and reading strategies from the typographic presentation.

Overall, the elicited constructs tended to be evaluative in nature (themes two to five in the list above) or combine evaluative judgments with literal descriptions of the examples. Comparatively, few purely descriptive constructs were articulated. The elicited constructs are not necessarily singular in theme. Many participants wrote down compound constructs that may contain more than one idea.

## 4.2 Analysis of perceived document similarity

Two sets of quantitative data provide an indication of which documents participants perceived to be similar:

1. The initial pairing of documents within the triads and
2. The ratings given to each document.

For ease of comparison, the data in Table 2 has been grouped according to the differentiation patterns listed in Column A. Column B specifies all the documents pairs that could potentially be formed from the test material. Column C indicates how often across the whole study participants paired these documents together during the triadic elicitation of constructs (as per the first set of data mentioned above). The actual number of times a document was chosen has been converted to a percentage of the number of times it was shown, to balance for the unevenness introduced by randomization of the triads. Column D shows the similarity of the two documents in Column B based on the mean similarity of each pair from all the rating scales (as per the second set of data mentioned above). So, for example, the similarity of all the construct ratings for Document A was compared to the similarity of all the ratings for every other document, providing an indication of the overall similarity or difference of each document pair. These percentages were compared across all the participants to ascertain a mean score for each document pair.

[Insert Table 2]

The paired data in Column C indicates that documents from the same differentiation pattern were most likely to be paired together, while documents from high and low



differentiation patterns were unlikely to be paired. Interestingly, for the four instances where high and low differentiation documents were paired, the participants articulated purely descriptive criteria (e.g. similarities and differences with regard to the color or angling of the heading) as their initial construct rather than an evaluative or rhetorical impression. In comparison, pairings of two high differentiation documents elicited clearly evaluative judgments. Pairings of high and moderate document combinations tended to occur when the third example in the triad was a low differentiation document.

The data in Column D provides grounds to suggest that, across the study, participants tended to make similar assessments of documents from the same differentiation pattern and were unlikely to rate documents from contrasting (high and low) patterns in similar ways. The highest similarity of ratings (over 71%) are for the nine document pairs from the same differentiation pattern and the highest difference of ratings is for the nine document pairs from high and low patterns (lower than 40%). The greatest uniformity of ratings was for documents of a moderate differentiation pattern.

Both sets of data support the premise that documents of the same differentiation pattern are likely to be construed in similar ways.

### 4.3 The influence of typographic differentiation on participants' impressions

Cluster analyses of the repertory grid data (using WebGrid5<sup>6</sup>) show that documents of similar differentiation patterns, particularly the high differentiation documents, tend to be clustered together as shown in the example in Figure 12. In comparison, documents of contrasting differentiation patterns such as high and low differentiation combinations were never clustered in close proximity to each other.

[insert Figure 12]

Accordingly, participants tended to construe the high, moderate, and low differentiation documents in different ways. Where the cluster analyses of individual participants indicated that one or more documents were seen as distinct from the other documents of a particular differentiation pattern, the audio data indicates that the participant had a strong reaction (like/dislike) to that document. For example, one participant considered the prominent white space around the heading in Document I to indicate that the document was incomplete and another participant said Document D reminded him/her of leaflets advertising medical products.

Using the themes identified in section 4.1, a summary of participants' impressions of documents exhibiting high, moderate or low differentiation is presented in Table 3.

The constructs do seem to vary slightly in relation to individual preferences, indicating that participants' responses may shift in relation to their own experiences,

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<sup>6</sup> WebGrid5 (<http://gigi.cpsc.ualgary.ca:2000/>) is an online visualization tool for the analysis and representation of elicitation grid data.

associations and taste. Participants who found the high differentiation examples more attractive and user-friendly described the low differentiation pairs as dull and difficult to read. In contrast, those participants who found the high differentiation examples to be distracting and demanding described the low differentiation examples as more calm, relaxing, and stylish. Rather than necessarily perceiving these as harder to read, they noted that these examples are intended for serious, focused readers who would be reading for work or information rather than casual, leisure readers. Regardless of individually expressed preferences for more or less overt differentiation, the participants tended to perceive high differentiation documents as publications that would be read in leisure contexts, with a few participants perceiving these as more commercial in nature.

## **5 Discussion**

### **5.1 Main findings and their implications**

Participants did articulate similar descriptors to some of those used in studies of typeface personality (see Shaikh 2007). Yet, the range of constructs articulated was much wider than those generally associated with typeface personality. The data suggests that typographic meaning is not simply the expression of abstract qualities such as mood, but relates to how documents address and appeal to particular reader profiles, suggest specific reading strategies, and carry associations of credibility, information value, genre, and usability. The relationship between typography and readers' associations of genre and usability identified here merits further exploration

in relation to the translation of magazines and other genres onto new platforms such as ipad and tablet devices. As Kostelnick and Hassett (2003) discuss, convention plays a key role in document rhetoric and these conventions may differ or be more fluid in electronic media than in the more established print precedents. The evidence from the qualitative data in both the preliminary and repertory grid study reinforces the premise that participants use their own experiences of media and existing genres to make sense of documents.

Surprisingly, given the focus on typeface personality in typographic research and professional discourse, there was no evidence to suggest that the variations in typeface had any significant influence on participants' impressions. In contrast, participants seemed to make more general assessments of the relative salience of display type and commented more readily on the use of bold weights and capitalization than they did on differences in typeface.

The study provides sufficient evidence to suggest that patterns of typographic differentiation underlie readers' impressions of document design. Participants paired documents of the same differentiation pattern more readily than documents of differing patterns. The elicited constructs and the rating scales indicate that participants generally formed corresponding impressions for documents of the same differentiation pattern and contrasting impressions of high and low differentiation documents. However, the use of a two-column layout in some of the moderate and low differentiation documents seemed to be a strong cue across both patterns. In this respect, it would seem that both the structural differentiation of information plays a key role in shaping readers' impressions of documents, in addition to stylistic

differentiation. This finding lends support to Waller's (2012) assertion that layout is a key component of text. This aspect of document design also merits further investigation considering the potential fluidity of layout across responsive digital devices of different sizes. To what extent do the genre associations readers hold shift in relation to the affordances or constraints of different devices? For example, the width, number and spacing of columns seemed to carry clear genre associations for participants and it would be useful to assess whether these associations are carried over into users' impressions of layout on small screens where text and graphic objects are often stacked in a single column rather than presented in a multicolumn layout.

The participants' emphasis on genre in the interviews indicates the importance of genre in how we interpret and engage with documents. It is important to reiterate that this study explored a limited set of constraints. The application of the three patterns of typographic differentiation to the test materials was particular to the magazine genre. What may be considered a moderate level of differentiation for a consumer magazine may be seen as a high level of differentiation in a corporate report or functional document. There is certainly scope to explore typographic differentiation across other genres and platforms.

## **5.2 Possible methodological constraints**

A relatively high number of elicited constructs pertained to the perceived seriousness and formality of the documents. Overall, participants seemed to consider the documents to be relatively serious, with some being seen more like academic journals

than consumer magazines. The necessity of controlling the color, imagery and variety of typefaces used may have caused this effect. It is worth noting that some participants commented they would expect to see more images than were shown in the documents. These remarks tended to be made when participants were commenting on high differentiation documents. The word and sentence length in the article also tended to be relatively long and this could also account for the perceived seriousness of the test material, although only one participant remarked on this aspect. In addition, the nonsense words generated for the section headers were “Wournal Theach”. The similarity of these nonsense words and their likely pronunciation to words like “journal” and “teach” may have influenced participants’ interpretation of the test material.

The genre associations made with journals may not necessarily be related to the test material, but could also be related to the kinds of publications the participants read. As apparent in both this study and the exploratory research that preceded it, readers tend to refer to their own media consumption and examples with which they are familiar. Alternatively, the academic context of the interviews may have made participants more inclined to use the term “academic” in their descriptions.

### **5.3 Benefits of the repertory grid technique**

Methodologically, the use of the repertory grid procedure was an invaluable tool for this study in two ways. Firstly, it enabled the range and kinds of impressions readers form in relation to typographic presentation to be uncovered without forcing

participants to adopt descriptors that may not be meaningful to them. This was particularly important because, in contrast to the emphasis in professional design discourse and typographic research on mood and personality, it enabled the study to reveal that typographic presentation does influence readers' assumptions about document credibility and their decisions about how to engage with a document. Building on this finding, it may be useful to test readers' impressions of document credibility and reading strategies further through studies that use a set of supplied descriptors and perhaps adopt alternative methods such as semantic differential scales or paired comparisons. Secondly, the repertory grid procedure enabled systematic measurement of participants' impressions of patterns of typographic differentiation while collecting rich qualitative data that contextualized and explained participants' responses. In these ways, it provided clear grounds to identify which combinations of attributes in the multivariate test material were influential on participants' impressions.

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# **Investigating readers' impressions of typographic differentiation using repertory grids**

## **Captions for figures**

Figure 1: Levels of stylistic differentiation applied to drop caps and subheadings

Figure 2: Low differentiation example C

Figure 3: Low differentiation example F

Figure 4: Low differentiation example I

Figure 5: Moderate differentiation example B

Figure 6: Moderate differentiation example E

Figure 7: Moderate differentiation example H

Figure 8: High differentiation example A

Figure 9: High differentiation example D

Figure 10: High differentiation example G

Figure 11: Example of the grid supplied to participants

Figure 12: Example of the cluster analysis visualization of a participant's grid

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## **Biographical note**

Jeanne-Louise Moys is sessional lecturer in the Department of Typography & Graphic Communication at the University of Reading in the UK, from where she holds a PhD that investigated readers' impressions of typographic presentation using multivariate materials. Her interest in readers' experiences grew from her professional experience of designing for multicultural audiences in post-apartheid South Africa. She has worked across a range of design and publishing genres in South Africa and the UK and currently serves on the Information Design Association committee.